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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,398	02/26/2004	Karen J. Klingman	86852SMR	4515

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Paul A. Leipold
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER

MARTIN, LAURA E

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/787,398	Applicant(s) KLINGMAN ET AL.	
	Examiner Laura E. Martin	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 32-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 32-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/29/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14, 16 and 32-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekiya (US 20020075353).

As per claims 1, 32, 43, and 54 Sekiya teaches an ink jet printing method, ink jet supply system, ink jet printer, and method of replenishing ink supply comprising the steps of: A) providing an ink jet printer that is responsive to digital data signals [0006]; B) providing an ink jet printhead comprising a nozzle array (figure 10A, element 73) comprising a plurality of nozzles, said nozzle array being dedicated to ejecting a given ink jet ink composition (figure 10A, elements 71B, 71C, 71M, and 71Y), wherein said nozzles are 20 microns or less in diameter [0080]; C) supplying said printhead with said given ink jet ink composition, said ink jet ink composition comprising particles wherein at least 90% by weight of said particles have a diameter that is less than 1/120th of the diameter of said nozzles (claim 1); and D) printing using said given ink jet ink composition in response to said digital data signals [0006].

As per claims 2, 33, and 44, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein said nozzles are less than 18 microns in diameter [0080].

As per claims 3, 34, 45, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein said nozzles are less than 16 microns in diameter [0080].

As per claims 4, 35, 46, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein at least 90% of the particles are less than $1/150^{\text{th}}$ of the diameter of the nozzles (claim 1; [0082]).

As per claim 5, Sekiya teaches an ink jet printing method wherein at least 90% of the particles are less than $1/150^{\text{th}}$ of the diameter of the nozzles (claim 1; [0082]).

As per claims 6, 36, 47, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein at least 90% of the particles are less than $1/200^{\text{th}}$ of the diameter of the nozzles (claim 1; [0082]).

As per claims 7, 37, 48, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer, wherein at least 90% of the particles are less than $1/200^{\text{th}}$ of the diameter of the nozzles (claim 1; [0082]).

As per claims 8, 38, 49, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer, wherein the printhead comprises more than one nozzle array, each nozzle array being dedicated to ejecting ink of a different given ink jet ink

composition [0072], wherein each given ink jet ink composition comprises particles wherein at least 90% of the particles are less than $1/120^{\text{th}}$ of the diameter of the nozzles of the dedicated nozzle array [0082].

As per claims 9, 39, 50, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein the printhead comprises at least three nozzle arrays, said arrays being dedicated to ejecting cyan, yellow and magenta ink compositions respectively (figure 10A, elements 71B, 71C, 71M, and 71Y).

As per claim 10, Sekiya teaches an ink jet printing method wherein the particles are colorant particles [0042].

As per claims 11, 40, 51, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein the particles are pigments [0042].

As per claims 12, 41, 52, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein the particles are cyan pigments [0051].

As per claim 13, Sekiya teaches an ink jet printing method wherein the printhead is provided as part of the printer [0017].

As per claim 14, Sekiya teaches an ink jet printing method wherein the printhead is provided by an ink supply system comprising an ink supply and a printhead [0086].

As per claims 16, 42, 53, Sekiya teaches an ink jet printing method, ink jet supply system, and ink jet printer wherein the ink jet ink composition is an aqueous-based ink composition comprising a humectant and/or co-solvent (first solvent group [0065]).

As per claims 55, 57, and 58, Sekiya teaches a thermal printhead [0041].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya (US 20020075353) in view of Rutland et al. (US 20030202039).

Sekiya teaches the ink jet printing method of claim 1; however, it does not disclose an ink jet printing method wherein the given ink jet ink composition is ejected from the nozzles of the nozzle array in droplets having an average drop volume of 5 pL or less.

Rutland et al. discloses an ink jet printing method wherein the given ink jet ink composition is ejected from the nozzles of the nozzle array in droplets having an average drop volume of 5 pL or less [0047].


It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink jet printing method of Sekiya with the disclosure of Rutland et al. in order to create a clearer image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

 3/13/06
MANISH S. SHAH
PRIMARY EXAMINER